Notebook, N-01-10-18

This notebook was used by Edison during October 1901. It contains a list of twenty-eight items noting possible causes of variations in the output of the storage battery. Inserted into the book is a note from February 1902 by an unidentified experimenter regarding the assay of an ore sample from Grant's Pass, Oregon [not selected]. The front cover is marked "Oct 01." The pages are unnumbered. Only 7 pages have been used.

Iron Electrode
Oct 18 1901

Probable Causes of variations in MAH

1st Steel of cup not springy enough to follow up -

2nd Surface of nickel plating has scum on & dont make good contacts

3rd After discharging large quantity of metal becomes oxidized out of contact -

4th KOH used, variation in amount used

5th KOH used, variation in time of mixing so more or less gets carbonated

6th Bringing into solution within the grid more or less Carbonate Potash due to Carbonation of KOH while making

7th Iron or the oxide more or less oxidized by moisture in the air while making grid -

8th More or less rolling - with variations of KOH —

9th More or less absorbed dampness making the material more or less Elastic when pressed -

10th Variation in quality of Iron in making

11th Variation in changing times

12th Variation in mixing graphite

13th Dies may come together & not give full pressure

14th Briquette plunger may bind due to not always being placed central in the press

15th Time left in Hydrogen when furnace run is complete.

16th Whether or not the Iron is rubbed or ground before putting in mould

17th High pressure on cake may make it so hard that the perforations are nearly closed

18th Not sufficient charging time on ~~[illegible]~~

19th Silica or alumina in Kott, iron forming a film on iron during first discharge which diminished action on second run

20th Deposition of Arsenic or Copper etc during charge which during discharge makes an oxide which gives local actions during charge & discharges -

21st H_2O_2 or KH_2O_2 may be formed in charging solution which if the current is broken some time before grid is removed to test cell may cause a film of oxide to form & make some of the iron inert =

22 There may be an Fe_3O or Fe_4O

23rd Unseen distribution of material in the mould might make hard & soft spots or one side or edge soft the other hard, also ditto at Each end of Briquette, Thus producing no pressure of Cup on parts —

24 space at sides may not come down on crimping, + leaves a void The wetting permits swelling + disintegration of this point which in time would Extend to whole of the Brick

25 The Ends not being crimped like the sides leave a soft end or void permitting disintegration

26 Bad Contact between grid & cup

27 On account of small pressure 150 at ~~the pa~~ only a few of the particles are forced together in contact,

28th In changing so much of the stuff comes out on a badly pressed grid that it permits gradual disintegration by the liquid & gassing